

RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: 10512, 109

Source: PT

Date Processed by STIC: 10/29/04

ENTERED



PCT

RAW SEQUENCE LISTING

DATE: 10/29/2004

PATENT APPLICATION: US/10/512,109

TIME: 12:05:29

Input Set : A:\38422A.txt

Output Set: N:\CRF4\10292004\J512109.raw

```

3 <110> APPLICANT: KIRIN BEER KABUSHIKI KAISHA
5 <120> TITLE OF INVENTION: POLYPEPTIDE HAVING AN ACTIVITY TO SUPPORT PROLIFERATION OR
SURVIVAL
6     OF HEMATOPOIETIC STEM CELL OR HEMATOPOIETIC PROGENITOR CELL, AND DNA CODING
7     FOR THE SAME
9 <130> FILE REFERENCE: 905WO1OP1572
C--> 11 <140> CURRENT APPLICATION NUMBER: US/10/512,109
C--> 11 <141> CURRENT FILING DATE: 2004-10-21
11 <150> PRIOR APPLICATION NUMBER: US 60/376,001
12 <151> PRIOR FILING DATE: 2002-04-26
14 <160> NUMBER OF SEQ ID NOS: 49
16 <170> SOFTWARE: PatentIn version 3.0
18 <210> SEQ ID NO: 1
19 <211> LENGTH: 343
20 <212> TYPE: DNA
21 <213> ORGANISM: Mus musculus
23 <400> SEQUENCE: 1
24 cctatggcgg caacgacgtg gacttccagg atgctagtga tgacggcagt ggctccggca      60
26 gcggtggcgg atgccagat gacacctgtg gccggagggt cagcaagaag agttccagct      120
28 cccggacccc cttgacccat gccctccccg gctgtcaga acaggaggga cagaagacct      180
30 cagctgccac ctgccagag cccacagct tcttctgtct cttcctctgc accttggtcc      240
32 ttgcggcagc caggcccagg tggcggtaac tgccccctat ccagacagt aactctgagt      300
34 gctgcggcag ggtgcatgga ggggtccctc cctccttgag tcg                      343
36 <210> SEQ ID NO: 2
37 <211> LENGTH: 546
38 <212> TYPE: DNA
39 <213> ORGANISM: Mus musculus
41 <400> SEQUENCE: 2
42 tgtaccccag ggacttcttg atcctcttac atgtataaat agcaagaccg ggccagggaac      60
44 agcaagcagt ctgaaggcca gctgggtctg ccactaaga agatgaagcc ttttcatact      120
46 gccctctcct tctcattct tacaactgct ctgtgaatct gggcccagat cacacatgca      180
48 acagagacaa aagaagtcca gagcagtctg aaggcacagc aagggttga aattgaaatg      240
50 tttcacatgg gctttcaaga ctcttcagat tgctgcctgt cctataactc acggattcag      300
52 tgttcaagat ttataggtta ttttcccacc agtggtgggt gtaccaggcc gggcatcatc      360
54 tttatcagca agaggggggt ccagggtctgt gccaaaccca gtgatcggag agttcagaga      420
56 tgcattgaaa gattggagca aaactcaca ccacggacct acaacaata acatttgctt      480
58 gaagagaagg gtgtgaactg ccagctactt tctttgggtc tccccagtga ccacctaagt      540
60 ggctct                      546
62 <210> SEQ ID NO: 3
63 <211> LENGTH: 1223
64 <212> TYPE: DNA
65 <213> ORGANISM: Mus musculus
67 <400> SEQUENCE: 3
68 gtgacccgga agggagcccc gtggtagagg tgaccggagc tgagcatttc agatctgctt      60

```

RAW SEQUENCE LISTING

DATE: 10/29/2004

PATENT APPLICATION: US/10/512,109

TIME: 12:05:29

Input Set : A:\38422A.txt

Output Set: N:\CRF4\10292004\J512109.raw

```

70 agtaaaccgg tgtatcgccc accatgttgg ctgcaaggct tgtgtgtctc cggacactac 120
72 cttccagggt tttccagccc actttcatca ccaaggcctc tccacttgtg aagaattcca 180
74 tcacaaagaa ccaatggctc gtaacaccca gcagggaata tgctaccaag acaagaatta 240
76 ggactcaccg tgggaaaact ggacaagaac tgaaagaggc agccttggaa ccatcaatgg 300
78 aaaaaatctt taaaatcgat caaatgggaa ggtggtttgt tgctggagga gcagctgttg 360
80 gtcttggagc gctctgctac tatggcttgg gaatgtctaa tgagattgga gctatcgaaa 420
82 aggctgtaat ttggcctcag tatgtaaagg atagaattca ttctacttac atgtacttag 480
84 caggaaggta ttgtttaaca gctttgtctg ccttggcagt agccagaaca cctgctctca 540
86 tgaacttcat gatgacaggc tcttgggtga caattgggtg gacctttgca gccatgattg 600
88 gagctggaat gcttgtacac tcaatatcat atgagcagag cccaggccca aagcatctgg 660
90 cttggatgct gcattctggg gtgatgggtg cagttgtggc tctctgacg atcttagggg 720
92 ggctcttct cctgagagcc gcatggtaca ccgctgggat tgtgggaggc ctctctactg 780
94 tggccatgtg tgcgcctagt gagaagtttc tgaacatggg agcaccctg ggagtgggcc 840
96 tgggtcttgt ctttgctgtc tctctggggt ctatgtttct tccccctacc tctgtggctg 900
98 gtgccactct gtactcagt gcaatgtatg gtggattagt tcttttcagc atgttctctc 960
100 tgtatgatac tcagaaagta atcaaactg cagaaataac acccatgtat ggagctcaaa 1020
102 agtatgatcc catcaattcg atgttgacaa tctacatgga tacattaaat atatttatgc 1080
104 gagttgcaac tatgctagca actggaagca acagaaagaa atgaagtaac cgcttgtgat 1140
106 gtctccgctc actgatgtct tgcctgttta ataggagcag atagtcatta cagtttgcac 1200
108 cagcagaatt cccgcgcggc cgc 1223

```

110 <210> SEQ ID NO: 4

111 <211> LENGTH: 839

112 <212> TYPE: DNA

113 <213> ORGANISM: Mus musculus

115 <400> SEQUENCE: 4

```

116 gctgtgctg gcatcagtct tgccctctcc cctttggcca cgcggccctt ctcagcgatt 60
118 tgcagcagac ccgcagggca gtgtgctctg gtggcattga actgaagctt ggctctcggc 120
120 ctggcctgct ggctagtgtc ccacctgtg ggtcccgccc agagcaagga tactggagct 180
122 ttgcctgcc tcaactgagc tgggtctcca ctccagtcac cctccagct actttgcagc 240
124 actctgtgc catgagcacc tegtctgcgc ggctgacgt cctggccctt gccgggctgg 300
126 ctctgctcct tctgctgtgc ctgggtccag atggcataag tggaaacaaa ctcaagaaga 360
128 tgctccagaa acgagaagga cctgtcccgt caaagactaa tgtagctgta gccgagaaca 420
130 cagcaaagga attcctaggt ggctgaagc gtgccaaacg acagctgtgg gaccgtacgc 480
132 ggctgaggt acagcagtgg taccagcagt tctctacat gggctttgat gaggctaaat 540
134 ttgaagatga tgtcaactat tggctaaaca gaaatcgaaa cggccatgac tactatggtg 600
136 actactacca gcgtcattat gatgaagatg cggccatttg tccccacagc cgggaaagct 660
138 tcaggcatgg agccagtgtg aactatgatg actattaagc ttcttgaggt gccacagag 720
140 cttgtgctg cttcagtagg ccttctctac ctataccacg tgaccatcag gctaaaggaa 780
142 agaataaag tgctttttgc atttcatgca tgtgcttaac gatatgtctc acttaaaaa 839

```

145 <210> SEQ ID NO: 5

146 <211> LENGTH: 1420

147 <212> TYPE: DNA

148 <213> ORGANISM: Mus musculus

150 <400> SEQUENCE: 5

```

151 cctgtgcta ttttgatgga tggcaatgct aagcaagcaa gcactgttca cttgtgactt 60
153 tcattttctc cactgtgcac tgtcaaagac aaatgtgcat ggaaaaatgt ttagtgtcac 120
155 ctcattggct tctcagcatc agtgaccttc aaacggctct acaatgagac tgtgttctag 180
157 ctaggggtat gctgtggaaa ttctgtctac atttcatctt agtgctaaca tgtacagatt 240
159 ctgctgcgct acattcaaag ctcattactg tatatttatg ctttctctgt gtaacaagtt 300

```

RAW SEQUENCE LISTING

DATE: 10/29/2004

PATENT APPLICATION: US/10/512,109

TIME: 12:05:29

Input Set : A:\38422A.txt

Output Set: N:\CRF4\10292004\J512109.raw

```

161 atacctgata agatgtcact ttgtttctag tgattcttaa ccatggctctg gtacatggct 360
163 attctagttt tggaaattaa caagtgtttt gttgcctctt gttttctttt gttcctatca 420
165 tttttggcgg gggttgggtg ggcttgattc taaccgtaag tataggataa gctagttttg 480
167 tatatagagt caaatgactg atgtcagagg atcagtgtctg atagaacttc ccagttcat 540
169 gtcacgatac acacagagag aaagcagcat gaggcactctt gccatcagaa gccaaatttc 600
171 ttttgagttc caaaattgat gacttatgaa atatagctga aaacaagatt tgggtgtagt 660
173 tacttgattt tattatacaa ttccaatta catttttttt caaactcaaa ataaccatg 720
175 actttgagtg ataggtcact tggcaatgtt cttgaattac tggggaagct gttgtcacta 780
177 agataatgag agagaaaaata gaatggcttc gcccaagtga gagccacatc ttacatttct 840
179 ctgttgaatc ggaatcaact atattagaac agaagcctga tagaagcttt ctagttaaca 900
181 cacacaaggc catggtttca aaaacatctt tgtcccttta ggtcagtttg tccttagatt 960
183 atgaattggc aggttctaata tgcattatct ccttggtgta tccaggaaaa agttagaaca 1020
185 aaataagttg catagttttg aggaacatc caaagcaagg cgaagccttt ccttgcttg 1080
187 cattggcaaa actacctctt tagcatttat gttgattcag aaacatcttg ctgatatgtg 1140
189 tagatgtttt aagcttcatt gtgaaaatat tgatgcaaga taagccatat atgaatgttg 1200
191 tattcaactt tagggccttg aattaatcct aaagtgttca cctctctcca tgtctattta 1260
193 cactctgttc ctatttacta agagggtagg ggtctcctta atatcatact tcattgttaa 1320
195 taagtcaatg cttgttatgt ttcttggtg ttgtttttgt gcattaaaaa ctcaaaattg 1380
197 gaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1420

```

199 <210> SEQ ID NO: 6

200 <211> LENGTH: 763

201 <212> TYPE: DNA

202 <213> ORGANISM: Mus musculus

204 <400> SEQUENCE: 6

```

205 cccgccctcg cgaccccggc tctcctggac tcggcgccgc caacctgggc gatgccccgc 60
207 tacgagttgg ctttgattct gaaagccatg cggcgccag agaccgctgc tgctttgaaa 120
209 cgtacaatag aatccctgat ggaccgagga gccatagtga ggaacttga aagcctgggt 180
211 gagcgtgcgc tcccctacag gatctcgagt cacagccagc agcacagccg aggagggtat 240
213 ttcttggtgg atttttatgc tccgacaagt gctgtggaga acatactgga acacttggcg 300
215 cgagacattg acgtgggttag accaaatatt gtgaaacacc ctctgaccca ggaagtaaaa 360
217 gagtgtgacg gcatagtccc agtcccactt gaagaaaaaac tgtattcaac aaagaggagg 420
219 aagaagtgag aagattcacc agattctggc cttatattta atcctaaggg cactatgggt 480
221 gctgctaggt tggtgtctag gatactttag cccatgacca ttttgctgca ggaggtagaa 540
223 actgctggcc gagacctgcc ctgatgtctc tgctgagatt tcatccact tgtggggttt 600
225 gtcgggagtg ggggtgttca cagtaccact gtacggtttc caagagcaaa atgtttgtca 660
227 ttcacacttg gttgtcttgc aagcctatat ggaacactgg gagcagagta ataaacatga 720
229 ctttatcaac actggaaaaa aaaaaaaaaa aaaaaaaaaa aaa 763

```

231 <210> SEQ ID NO: 7

232 <211> LENGTH: 1300

233 <212> TYPE: DNA

234 <213> ORGANISM: Mus musculus

236 <400> SEQUENCE: 7

```

237 ggtatgcagt ctttcgcttg aatttgcctg ttgtttatat agtaataaca gcgctatcta 60
239 taaggcttac tggccttatt cctggttcca taagacacag gctgtacccc tttactgaat 120
241 ggcattgggt cagcttggag gaaagtcaga ggaaattcag ataacttgg atctcttctt 180
243 gtcgttgcaa tgtttcgggg tccacttcac tatgagatac caagcagctg ccaacctcac 240
245 catactcatt tcgttacaat ttctgaggca ccgtgggtgac ttgatccgac atacgaccac 300
247 gtcagttaca aaccagatct ttatgggttaa cttttgaaca ttccacaaac aacattgtaa 360
249 atgtgcgatg ttatgtttta aatcagacca cagtgggtccc caaatattat gtacatatga 420

```

RAW SEQUENCE LISTING

DATE: 10/29/2004

PATENT APPLICATION: US/10/512,109

TIME: 12:05:29

Input Set : A:\38422A.txt

Output Set: N:\CRF4\10292004\J512109.raw

```

251 caaatgtcag tgtaactttt tgttacactg acagtttcat aggtaaacaa acctacgctc 480
253 caatgttaaa ttatgcttgt gtatgtaaaa tacacaagca ttgggctatg tgtgtacgga 540
255 catgagggtg gtgcaatcgt actgtacgaa atgggtcaga atcattttca gtggtgtag 600
257 gttatgtagt ttcagactcc atgctgcatt ttctcttgca catgccatcc atttgcttat 660
259 tttggagtgt gagtattcct tcttattaat ttgaattcaa agcacaagcc tccattggt 720
261 caacattacc caacaagagt gtccagtgat gaccgagtta tctcacctgc tatactttta 780
263 ctgcaataat taatgacacc tggatgagga ggcgtgcgct gacttcattg ttcacccggg 840
265 atagtgcatt agcccactga attagagctg cttctaccag caaaagtgag cagtacacat 900
267 aggtgcattg ttgaaacatg aatcacatag agctatggag ttttgccaag tgatgtgttt 960
269 tctttttctt ttttcttttt ttttcttttt cttctttttt tctcttttct tcttcttctt 1020
271 cttttttttt ttttttacta tgcaaagatg ggaaatgcac aaacttccaa gacatgtctg 1080
273 aagaacttta caatacttga attttttctt taatcatccc atcacattta tggcattgat 1140
275 gcttccattg tatttttctt ttgtcccttc aacttcaatg gtttgaatt tcaatgcaca 1200
277 acctaacttt tgtttgagcgt aacttccaat cctattggct gcctggaacg gagattctgt 1260
279 catcctacac gcattcttta gttgactgtg cataaaagtt 1300
282 <210> SEQ ID NO: 8
283 <211> LENGTH: 1674
284 <212> TYPE: DNA
285 <213> ORGANISM: Mus musculus
287 <220> FEATURE:
288 <221> NAME/KEY: CDS
289 <222> LOCATION: (1)..(1671)
291 <400> SEQUENCE: 8
292 atg gaa ctc cgg acc cga ggc tgg tgg ctg ctg tgc gcg gcc gcc gcg 48
293 Met Glu Leu Arg Thr Arg Gly Trp Trp Leu Leu Cys Ala Ala Ala Ala
294 1 5 10 15
296 ctg gtc gtc tgc gcc cgc ggg gac ccc gcc agc aag agc cgg agc tgc 96
297 Leu Val Val Cys Ala Arg Gly Asp Pro Ala Ser Lys Ser Arg Ser Cys
298 20 25 30
300 agc gaa gtc cgc cag atc tac ggg gct aag ggc ttt agc ctg agc gat 144
301 Ser Glu Val Arg Gln Ile Tyr Gly Ala Lys Gly Phe Ser Leu Ser Asp
302 35 40 45
304 gtg ccc cag gca gag atc tgc ggt gag cac ctg cgg atc tgc ccc cag 192
305 Val Pro Gln Ala Glu Ile Ser Gly Glu His Leu Arg Ile Cys Pro Gln
306 50 55 60
308 ggc tac act tgc tgt acc agt gag atg gag gag aat ttg gcc aac cac 240
309 Gly Tyr Thr Cys Cys Thr Ser Glu Met Glu Glu Asn Leu Ala Asn His
310 65 70 75 80
312 agc cga atg gag ctg gag agc gca ctc cat gac agc agc cgc gcc ctg 288
313 Ser Arg Met Glu Leu Glu Ser Ala Leu His Asp Ser Ser Arg Ala Leu
314 85 90 95
318 cag gcc aca ctg gcc acc cag ctg cat ggc atc gat gac cac ttc cag 336
319 Gln Ala Thr Leu Ala Thr Gln Leu His Gly Ile Asp Asp His Phe Gln
320 100 105 110
322 cgc ctg ctg aat gac tgc gag cgc aca ctg cag gag gct ttc cct ggg 384
323 Arg Leu Leu Asn Asp Ser Glu Arg Thr Leu Gln Glu Ala Phe Pro Gly
324 115 120 125
326 gcc ttt ggg gac ctg tat acg cag aac act cgt gcc ttc cgg gac cta 432
327 Ala Phe Gly Asp Leu Tyr Thr Gln Asn Thr Arg Ala Phe Arg Asp Leu

```

RAW SEQUENCE LISTING

DATE: 10/29/2004

PATENT APPLICATION: US/10/512,109

TIME: 12:05:29

Input Set : A:\38422A.txt

Output Set: N:\CRF4\10292004\J512109.raw

328	130	135	140	
330	tat gtt gag ctg cgc ctc	tac tac cgt ggg gcc aac ctg cac ctt gag	480	
331	Tyr Val Glu Leu Arg Leu	Tyr Tyr Arg Gly Ala Asn Leu His Leu Glu		
332	145	150	155	160
334	gag acg ctg gcc gag ttc tgg gca cgg ctg	ctg gag cgc ctc ttc aag	528	
335	Glu Thr Leu Ala Glu Phe Trp Ala Arg Leu	Leu Glu Arg Leu Phe Lys		
336	165	170	175	
338	cag ctg cac ccc cag ctg ctg cct gat gac tac	ctg gac tgc ctg ggc	576	
339	Gln Leu His Pro Gln Leu Leu Pro Asp Asp Tyr	Leu Asp Cys Leu Gly		
340	180	185	190	
342	aag cag gcg gag gca ctg cgg ccg ttt gga gat gcc	cct cga gaa ctg	624	
343	Lys Gln Ala Glu Ala Leu Arg Pro Phe Gly Asp Ala	Pro Arg Glu Leu		
344	195	200	205	
346	cgc ctg cgg gcc acc cgt gcc ttt gtg gct gca cgt	tcc ttt gtg cag	672	
347	Arg Leu Arg Ala Thr Arg Ala Phe Val Ala Ala Arg	Ser Phe Val Gln		
348	210	215	220	
350	ggc ctg ggt gtg gcc agt gat gta gtc cgg aag gtg	gcc cag gta cct	720	
351	Gly Leu Gly Val Ala Ser Asp Val Val Arg Lys Val	Ala Gln Val Pro		
352	225	230	235	240
354	ctg gcc cca gaa tgt tct cgg gcc atc atg aag ttg	gtc tac tgt gct	768	
355	Leu Ala Pro Glu Cys Ser Arg Ala Ile Met Lys Leu	Val Tyr Cys Ala		
356	245	250	255	
358	cat tgc cgg gga gtc ccg ggc gcc cgg ccc tgc ccc	gac tat tgc cga	816	
359	His Cys Arg Gly Val Pro Gly Ala Arg Pro Cys Pro	Asp Tyr Cys Arg		
360	260	265	270	
362	aat gtg ctc aaa ggc tgc ctt gcc aac cag gcc gac	ctg gat gcc gag	864	
363	Asn Val Leu Lys Gly Cys Leu Ala Asn Gln Ala Asp	Leu Asp Ala Glu		
364	275	280	285	
366	tgg agg aac ctc ctg gac tcc atg gtg ctc atc act	gac aag ttc tgg	912	
367	Trp Arg Asn Leu Leu Asp Ser Met Val Leu Ile Thr	Asp Lys Phe Trp		
368	290	295	300	
370	ggc ccg tcg ggt gcg gag agt gtc att ggc ggt gtg	cac gtg tgg ctg	960	
371	Gly Pro Ser Gly Ala Glu Ser Val Ile Gly Gly Val	His Val Trp Leu		
372	305	310	315	320
374	gcg gag gcc atc aac gcc ctc cag gac aac aag gac	aca ctc aca gct	1008	
375	Ala Glu Ala Ile Asn Ala Leu Gln Asp Asn Lys Asp	Thr Leu Thr Ala		
376	325	330	335	
378	aag gtc atc cag gcc tgt gga aac ccc aag gtc aat	ccc cac ggc tct	1056	
379	Lys Val Ile Gln Ala Cys Gly Asn Pro Lys Val Asn	Pro His Gly Ser		
380	340	345	350	
382	ggg ccc gag gag aag cgt cgc cgt ggc aaa ttg gca	ctg cag gag aag	1104	
383	Gly Pro Glu Glu Lys Arg Arg Arg Gly Lys Leu Ala	Leu Gln Glu Lys		
384	355	360	365	
386	ccc tcc aca ggt act ctg gaa aaa ctg gtc tct gag	gcc aag gcc cag	1152	
387	Pro Ser Thr Gly Thr Leu Glu Lys Leu Val Ser Glu	Ala Lys Ala Gln		
388	370	375	380	
390	ctc cga gac att cag gac ttc tgg atc agc ctc cca	ggg aca ctg tgc	1200	
391	Leu Arg Asp Ile Gln Asp Phe Trp Ile Ser Leu Pro	Gly Thr Leu Cys		
392	385	390	395	400

VERIFICATION SUMMARY

DATE: 10/29/2004

PATENT APPLICATION: US/10/512,109

TIME: 12:05:30

Input Set : A:\38422A.txt

Output Set: N:\CRF4\10292004\J512109.raw

L:11 M:270 C: Current Application Number differs, Replaced Current Application No
L:11 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:2476 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:30
L:2487 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:31
L:2498 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:32
L:2509 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:33
L:2520 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:34
L:2531 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:35
L:2542 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:36
L:2553 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:37
L:2564 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:38
L:2575 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:39
L:2586 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:40
L:2597 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:41
L:2608 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:42
L:2619 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:43
L:2630 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:44
L:2641 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:45
L:2652 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:46
L:2810 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:49